Bangalore Electricity Supply Company Limited
(CIN-U4010KA2002SGC030438)

Ref. No. : BESCOM/D(T)/GM(M&C)/DGM(M&C)/AGM-M2/2024-25/703
Encl :

Corporate Office,
BESCOM, K.R. Circle,
Bangalore–560 001.
Date: 09/07/2024

Clarification No.-1

Sub: Procurement of Portable single phase, three phase LT, HT and Universal HT&LT Electronic Reference Standard Meters (Accuchecks)

Ref: 1. Paper Notification dated 11.06.2024.
2. T.O. Bid Enquiry No. BESCOM/GM(M&C)/141/2024-25.
3. KPPP Enquiry No. BESCOM/2023-24/IND0042/CALL-2.
4. Pre-bid meeting held on 24.06.2024.
5. Approval of D(T) dated 05.07.2024.

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The following clarifications pertaining to subject bid enquiry is herewith issued consequent to request from the prospective bidders and deliberations held during pre-bid meeting:

Sl. No	As existing Clause No.	Clarifications/amendments sought by the firm	BESCOM Clarifications
1	**Technical specifications Three Phase LT ERS** **Clause no. 1.0 & 1.4** .... accuracy class 0.2s for Clamp on CT Mode – Primary and Secondary, for the current range of Primary 1A to 400A and Secondary 50 mA to Maximum 10A at site as well as in Laboratory both for active and reactive energy.	The accuracy class of 400A CT shall be amended to Class 0.5S It shall be noted that the clamp on CT of 400A is asked to test in primary side of the installation. Whereas the total accuracy class will become class 1.0 (0.5 for LT CT and 0.5 for energy meter) as per the IS12346 it is asked one higher class (i.e. Class 0.5) is sufficient to test this installation. The requirement from BESCOM tender specification is omitting from the requirement mentioned in relevant Indian standard IS12346 which is limiting the competition in the bid.	Tender conditions prevail.
	Clause no. 1.17 Two set of ....Class 0.2S....with 400A clamp on CT	Another CT shall be asked for 80A. We are not able to understand the requirement of another CT up to 10A only whereas Single phase Meters can't be tested with this current rating. It shall be asked for at least up to 80A.	Amendment-1 issued
2	**Technical specifications Three Phase LT ERS** **Clause no. 1.11** Selection of measurement mode between total or fundamental mode for four wire active, reactive and apparent power / energy shall be provided.	This point shall be deleted This function available in higher accuracy class ERS and not required for 0.2 Accuracy Class ERS.	Tender conditions prevail.

Sl. No	As existing Clause No.	Clarifications/amendments sought by the firm	BESCOM Clarifications
3	**Technical specifications Three Phase LT ERS** **Clause 1.7** ... clause no. 1.8 shall be obtained by wireless color display. Thin film Transistor LCD. **Clause 1.8** ....Wireless interface display, connected.... **Clause no. 1.9** ...Wireless display of the reference standard shall be of Color 8 inch Touch screen with high resolution and suitable screen with device protection. Screen shall have size of 8" or above to view all relevant parameters in one screen. ....on touch display... Clause no. 1.17 Wireless TAB/ Handy Laptop/(if provided) should be of TFT Color Display with Bluetooth interface.	Wireless & Touch display & Bluetooth device shall be deleted. The asked specification is limiting the competition. Wireless display is not adding any value addition to Equipment's metrological properties. It shall be noted that asked android based system requires frequent updation which will lead to conflict in hardware configuration of system.	Tender conditions prevail.
4	**Technical specifications Three Phase LT ERS** **Clause 1.7** Auto measuring range shall be provided & switching between ranges should not affect the measurement.	Auto measuring range shall be provided. Ranges are selected to optimizing the accuracy hence desirable that range shall not change during testing.	Tender conditions prevail.
5	**Technical specifications Three Phase LT ERS** **Clause no. 1.4** Capable of Performing the Accuracy on both primary and secondary currents simultaneously in CT operated meters. Capable of giving the error at both ends of the connections i.e., Primary and secondary side. Capable of verifying the CT Ratio-MF, identifying CT Ratio error, Phase angle difference. **Clause 1.7** ERS Meter must be capable to measure Primary & secondary current for all 4 CTs Simultaneously.	Shall be deleted These asked parameters are related to particular manufacturer make. It shall be specified the testing shall be conducted as per which standard. Since as per the requirement of standard IS3156 and IS2705 the Ratio and phase errors to be performed 80% 100% and 120% load for PT and 1%, 2%, 5%, 10%, 20%, 50% 100% 120% load for CT. How to obtain such load points. Also all of these testing to be perform on 25% and 100% of rated burden of CT and PT. how to obtain such load in the field. Please suggest.	Tender conditions prevail.
6	**Technical specifications Three Phase LT ERS** **_Clause 1.1** Clause no. 1.7 Clause no. 1.8 (sr. no.	Up to 21st harmonics shall be asked. Requirement is conflicting & for field testing purpose harmonic measurement up to 21st are more	Tender conditions prevail.

Sl. No	As existing Clause No.	Clarifications/amendments sought by the firm	BESCOM Clarifications
	28) ... 31st harmonics... ...31st harmonics... RYB phase - Voltage and current up to 31st Harmonics	than sufficient.	
7	**Technical specifications Three Phase LT ERS _Clause no. 1.17** ID of clamp CT- Primary- 50 mm, Secondary- 8mm.	Primary & secondary word shall be deleted & Dia. should be 52 mm & 12 mm asked Dia. 50 mm & 8 mm should not be restricted. It also may be noted that to accommodate 50 mm cable the bigger CT dia is required. Hence minimum 52 mm shall be asked.	**Clarification:** ID of clamp CT-Primary- 52 mm will be considered, however, Secondary- 8mm shall be provided.
8	**Technical specifications Three Phase LT ERS _Clause no. 1.22** WIRELESS TAB/ HANDY LAPTOP DISPLAY DEVICE AND PRINTER SPECIFICATIONS	Shall be deleted For data downloading, PC system with Printer are sufficient. Separate portable devices shall be misplaced / misused and Guarantee will not be applicable as per clause no. 1.19 in this case.	Tender conditions prevail.
9	**No existing clause** Voltage accuracy : 0.05% Current accuracy: 0.15% clamp on CT For the asked voltage and current range.	It may be noted that the accuracy of basic parameters also must be defined to get desired accuracy of 0.2% in power and energy since it is derived quantity from voltage and current. It shall be reviewed and amended accordingly. It is must otherwise the metrological properties of device can't be ascertain.	No such conditions prevail.
10	**Technical specifications _Three Phase HT ERS** ...with complete accessories of accuracy class **0.1s** for Clamp on CT Mode	...with complete accessories of accuracy class **0.2s** for Clamp on CT Mode Please note that vide clause no. 5 of Accuracy Requirement – Accuracy with clamp on CT 0.2s asked. Also note that none of the manufacturer can provide accuracy of 0.1s in CT mode in view of long term specifically for field testing equipment	Tender conditions prevail.
11	**Technical specifications _Three Phase HT ERS** **Clause 8:** Constructional features and general requirements All the display parameters indicated in clause no. 9 shall be obtained by wireless color display..... **Clause 9** Display The accucheck should have wireless display. The wireless display of reference standard shall be of color touch screen	Wireless color display & Wireless communication / interface & Blue tooth shall be deleted. For the field testing purpose, equipment should have inbuilt display with inbuilt key pad. Wireless display is just only the fancy feature, asking this feature is limiting the competition. Please note that inbuilt type display is very sturdy and wireless display having too much problematic, fragile and not user-friendly for field testing purpose. Shall be deleted	Tender conditions prevail. Tender conditions prevail.

Sl. No	As existing Clause No.	Clarifications/amendments sought by the firm	BESCOM Clarifications
	Clause No. 18 Accessories Wireless Tab/ Handy laptop/ In built display (if provided) should be of TFT Display with Bluetooth device.	Shall be deleted	Tender conditions prevail.
	Clause 23 WIRELESS TAB/HANDY LAPTOP DISPLAY DEVICE AND PRINTER SPECIFICATIONS	Shall be deleted For data downloading, PC system with Printer are sufficient. Separate portable devices shall be misplaced / misused and Guarantee will not be applicable as per clause no. 20 in this case.	Tender conditions prevail.
12	**Technical specifications _Three Phase HT ERS** **Clause 9**: Display Sr. No 27 of Table Calibration date of equipment and calibration due.	On sticker is also acceptable. We understand, sticker on the equipment is also acceptable to indicate calibration date and due date.	Tender conditions prevail.
13	**Technical specifications _Three Phase HT ERS** **Clause 18** One set of Clamp On current transformers (CT) **of 400A** and 10A confirming to class 0.2S complete with connection cable for on-line testing.	400 A Clamp on CT shall be deleted 400 A Clamp on CT shall be deleted since only 10A Clamp on CT has been asked.	Amendment-1 issued.
	Optical probe for DLMS Dial test.	This clause shall be deleted Please note that some of the meters are available with DLMS and some are available without DLMS, hence dial test facility should be asked by manually entering in the reference meter shall be asked.	Amendment-1 issued.
	ID of clamp CT-Secondary-8mm	Primary & secondary word shall be deleted & Dia. should be 12 mm asked. Only one CT has been asked, hence Primary & secondary word shall be deleted. Dia. 8 mm should not be restricted. Hence minimum 12 mm shall be asked.	Tender conditions prevail.
14	**Technical specifications _Three phase HT & LT ERS Combined** **Clause 1:Scope** of HT&LT combined ERS .... The current range of primary Clamp On CT shall be 1A to 400A and secondary clamp on CT shall be 10mA to 10A and for Direct CT current range from 50mA to 10A at site as well as in Laboratory. .... **Clause 6**: Supply system	Primary & secondary word shall be deleted and another CT shall be asked for 80A. We are not able to understand the requirement of another CT up to 10A only whereas Single phase Meters can't be tested with this current rating. It shall be asked for at least up to 80A.	Tender conditions prevail as the requirement is for Three phase ERS.

Sl. No	As existing Clause No.	Clarifications/amendments sought by the firm	BESCOM Clarifications
	of HT&LT combined ERS Direct mode CT (**50mA** to 10 A) Ib-5A, Imax – 10 A Primary Clamp on CT (1A to 400 A) Ib-400 A, Imax – 400 A Secondary Clamp on CT (**10mA** to10A) Ib -5A, Imax – 10 A		Amendment-1 issued.
15	**Technical specifications** **Three phase HT & LT ERS Combined _Clause 8**: Constructional features and general requirements All the display parameters indicated in clause no. 9 shall be obtained by wireless color display.....	Wireless color display & Wireless communication / interface & Blue tooth shall be deleted. For the field testing purpose, equipment should have inbuilt display with inbuilt key pad. Wireless display is just only the fancy feature, asking this feature is limiting the competition. Please note that inbuilt type display is very sturdy and wireless display having too much problematic, fragile and not user-friendly for field testing purpose.	Tender conditions prevail.
	Clause 9: Display The accucheck should have wireless display. The wireless display of reference standard shall be of color touch screen	Shall be deleted	Tender conditions prevail.
	Clause No. 18: Accessories Wireless Tab/ Handy laptop/ In built display (if provided) should be of TFT Display with Bluetooth device **Clause 23** WIRELESS TAB/ HANDY LAPTOP DISPLAY DEVICE AND PRINTER SPECIFICATIONS	Shall be deleted For data downloading, PC system with Printer are sufficient. Separate portable devices shall be misplaced / misused and Guarantee will not be applicable as per clause no. 20 in this case. Shall be deleted	Tender conditions prevail. Tender conditions prevail.
16	**Technical specifications _Three phase HT & LT ERS Combined _Clause 9**: Display Sr. No 27 of Table Calibration date of equipment and calibration due. Sr. No 28 of Table RYB phase - Voltage and current up to **51st** Harmonics	On sticker is also acceptable. We understand, sticker on the equipment is also acceptable to indicate calibration date and due date. up to 31st Harmonics 51st Harmonic is contradictory with Cl. No.8 – harmonic measurement up to 31st. Hence 31st shall be asked, which is more than sufficient.	Tender conditions prevail. Amendment-1 issued
17	**Technical specifications _Three phase HT & LT ERS Combined _Clause 18** Optical probe for DLMS Dial test	This clause shall be deleted. Please note that some of the meters are available with DLMS and some are available without DLMS, hence dial test facility should be asked by manually entering in the reference meter shall be asked.	Amendment-1 issued

Sl. No	As existing Clause No.	Clarifications/amendments sought by the firm	BESCOM Clarifications
	ID of clamp CT- Primary- 50 mm, Secondary-8mm.	Primary & secondary word shall be deleted & Dia. should be 12 mm asked Two separate CT has been asked, hence Primary & secondary word shall be deleted & 8 mm should not be restricted.	**Clarification:** ID of clamp CT-Primary- 52 mm will be considered, however, Secondary-8mm shall be provided.
18	**Technical specifications** **_Single Phase ERS** Clause i ... ... 0.2s with Clamp on CT...	0.2s with clamp on CT should be for Active and Reactive mode both. 0.2s should be for Active & Reactive measurement both, since for solar meter testing reactive measurement is also available.	Additional feature will be acceptable.
19	**Technical specifications** **_Single Phase ERS** **Clause n** .. store minimum 12000 test results	...store minimum 1000 test results.... 1000 nos. of test results storing capacity are more than sufficient.	Tender conditions prevail.
20	**Technical specifications** **_Single Phase ERS** **i. Accuracy Requirement** For the accuracy certification of test equipment, high frequency pulse output shall be provided on it.	For the accuracy certification of test equipment, LED pulse output/ frequency output shall be provided on it. Accuracy can be tested by either LED Pulse or frequency output. Both should be acceptable options, since different test benches accept different inputs.	Tender conditions prevail.
21	**Technical specifications** **_Three Phase ERS** **1.13 Type tests** **Test of accuracy requirements**	This shall be removed. As per IS14697 (Ref - Table 16), "Test of accuracy requirements" is the super set of all other items listed in Clause 1.13. Thus, there is no further requirement to include this as a line item in Clause 1.13. (Kindly refer Annexure-2)	Tender conditions prevail.
22	**Technical specifications** **_ Three phase LT ERS** In **GTP Point No.22** IS ELECTRONIC COMPENSATED CLAMP-ON CTs TO ENABLE TESTING WITHOUT ISOLATING OR INTERRUPTING THE SUPPLY OF THE CONSUMER IS PROVIDED	IS CLAMP-ON CTs TO ENABLE TESTING WITHOUT ISOLATING OR INTERRUPTING THE SUPPLY OF THE CONSUMER IS PROVIDED With new technologies in magnetics, CTs have high accuracy and are interchangeable. As long as the CTs are interchangeable, the electronic compensation is not required.	Tender conditions prevail.
23	**Technical specifications** **_ Three phase HT ERS** **In GTP Point No.22** IS ELECTRONIC COMPENSATED CLAMP-ON CTs TO ENABLE TESTING WITHOUT ISOLATING OR INTERRUPTING THE SUPPLY OF THE CONSUMER IS PROVIDED	IS CLAMP-ON CTs TO ENABLE TESTING WITHOUT ISOLATING OR INTERRUPTING THE SUPPLY OF THE CONSUMER IS PROVIDED With new technologies in magnetics, CTs have high accuracy and are interchangeable. As long as the CTs are interchangeable, the electronic compensation is not required.	Tender conditions prevail.

Sl. No	As existing Clause No.	Clarifications/amendments sought by the firm	BESCOM Clarifications
24	**Technical specifications _Combined HT & LT ERS** In **GTP Point No.22** IS ELECTRONIC COMPENSATED CLAMP-ON CTs TO ENABLE TESTING WITHOUT ISOLATING OR INTERRUPTING THE SUPPLY OF THE CONSUMER IS PROVIDED	IS CLAMP-ON CTs TO ENABLE TESTING WITHOUT ISOLATING OR INTERRUPTING THE SUPPLY OF THE CONSUMER IS PROVIDED With new technologies in magnetics, CTs have high accuracy and are interchangeable. As long as the CTs are interchangeable, the electronic compensation is not required.	Tender conditions prevail.

All other terms & conditions of the subject tender remain unaltered.

(Yogesh.B.K)
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Meters & Commercial
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